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TIMELY FARM TOPICS 11a

(Farm Science Serves the Nation No. 6)

BUILDING UP HERDS TO GIVE MORE MILK

A radio discussion by O. E. Reed, Chief of the Bureau of Dairy Industry; Ernest Moore and M. L. DuMars, Office of Information, U. S. D. A. Recorded Wednesday, January 3, 1945. Script prepared by Josephine Hemphill. Time: Seven minutes and forty-seven seconds without announcer's parts.

ANNOUNCER: (LIVE) From time to time during the past few weeks, we've been listening to reports on research in the United States Department of Agriculture, and how this work is helping the farmer with his tremendous production job. Today we're going to hear about dairy research. From the Department of Agriculture -- a visit by transcription with O. E. Reed, Chief of the Bureau of Dairy Industry...Duke DuMars...and our Farm Science Reporter Ernie Moore.

TRANSCRIPTION

ERNIE MOORE: Today we're in the South Building of the Department -- sitting here in Mr. Reed's office. And here comes Duke DuMars -- just coming in the door!

DUKE DUMARS: Am I just in time?

MOORE: On the dot. Where've you been?

DUMARS: Brushing up on dairy science!

MOORE: So you can impress Mr. Reed?

DUMARS: I stopped in the library, and found an essay on the cow. Want to hear it?

MOORE: Sure!

DUMARS: It was written by a little school boy after his first trip to the country. Here's what he wrote: "A cow is a mammal and tamed. She has six sides -- right, left, front, back, top and bottom. At the back there is a tail from which hangs a plume. Under the cow hangs the milk, and it is arranged to be milked. I have never learned how she makes more and more milk."

MOORE: Is that the extent of our research?

DUMARS: Oh no. Listen to this: "No other food exceeds milk" -- in possibilities for improving human life.

MOORE: Do you know why milk is so important?

DUMARS: Everybody knows that. For its proteins, fats, minerals, vitamins! Vitamin A -- for good health and good eyesight.

MOORE: Just before you came in, Mr. Reed was telling me about a feeding experiment with vitamin A.

DUMARS: What was that, Mr. Reed?

REED: As I was telling Ernie, the calves were fed a ration that contained no vitamin A at all, and before long they became blind. In another experiment -- on vitamin D, the sunshine vitamin -- we raised some calves in the dark.

DUMARS: And what happened to them?

REED: Ernie, aren't we beginning at the wrong end of this report?

MOORE: Yes we are. Let's lead up to these modern experiments. Duke, how'd you like a two-minute history of the milk cow?

DUMARS: You mean a condensed milk story?

MOORE: Look, Duke --

DUMARS: Okay, Professor. Let's have our history lesson.

MOORE: We'll go back about 10,000 years -- to the days when primitive tribes were roaming over Asia with their herds, looking for new pastures. Later, in the Middle Ages, when they settled down and "stayed put" for a while, they paid more attention to their livestock. They began to select their cattle for size and color, and the shape of their horns. So eventually -- after many, many years -- they had some definite breeds. Now, shall we go over to America, with the early colonists?

DUMARS: Any cattle in America?

MOORE: No native cattle. Just those the colonists are taking over.

DUMARS: It's a long journey -- across the ocean.

MOORE: Yes it is. If you want any milk, you'd better take your cow. Even if she is only a scrub.

DUMARS: Weren't they all?

MOORE: I guess most of 'em were, in those days. Well, more and more cattle were brought to America, and -- to telescope a lot of history -- in time we were doing a pretty good business in dairy products. Just fifty years ago, the Dairy Division was organized in the Department of Agriculture. Mr. Reed, I know you weren't around here then -- but won't you take over?

REED: Well, since we're playing fast and loose with history, do you mind if I make the time 1918?

MOORE: Go right ahead.

REED: Of course that leaves out a method for making butter that revolutionized the whole industry, and it leaves out some of the most remarkable work ever done in disease control and dairy sanitation. But those are other stories. I'd like to tell about a long-time project that is still going on.

MOORE: You mean the breeding work.



REED: Yes. For many years, one of the dairy farmer's biggest problems has been how to cut down on low milkers. To solve this problem, he needs to know more about the principles of breeding. Do you have any idea -- how few of this country's dairy cows return a profit?

MOORE: Well, I'd say not more than a third.

REED: Only a third. Another third just break even, and one third don't even pay for their keep. In 1918, the Dairy Division decided to do something about this, so we began the most intensive breeding experiment ever undertaken with dairy cattle -- using proved sires. A proved sire, for those who don't know, is one whose daughters are consistently better milkers than their mothers. When the project began, the average milk production in our Holstein herd was 17,000 pounds a year. By 1944, our proved sires had built it up to 21,000. That's an increase of 4,000 pounds of milk, per cow, per year.

MOORE: So what you've proved -- a cow inherits the ability to produce more milk.

REED: This we do know: Other things being equal, we can more than double the average production of our dairy herds, without adding a single cow.

DUMARS: Do you think we'll ever do it?

REED: It's possible. You know what a fine job is being done by the Dairy Herd Improvement Associations. By testing cows and proving sires, they've got the average milk production in their own herds to over 8,000 pounds of milk a year -- while the average for the whole country is still less than 5,000. Of course it's getting better, as more and more farmers use improved breeding stock. Now I don't want to give the impression that high-producing cows and proved sires are all you need to get more milk. You can't have good producers without good feed -- and that brings me up to those feeding experiments.

DUMARS: Tell us more about vitamin A.

REED: In this experiment, we found just how much vitamin A a cow needs to keep herself in good health, produce her calf, and then nourish her calf properly.

MOORE: To nourish her calf, doesn't she need plenty of vitamin A in her milk?

REED: She does, and that's a very fortunate thing for people who drink the milk. Ordinarily, the only way a cow gets vitamin A is from roughage feeds -- such as hay, pasture, and silage. But the point is -- she won't get much of this vitamin, even from alfalfa hay, if it's dry and brown. When hay loses its green color, it also loses a lot of vitamin A.

MOORE: See Duke? It's just like green leafy vegetables.

DUMARS: The greener the better.

REED: That's right. As I said before, the calves that did not get their vitamin A eventually became blind. Now in the other experiment, we learned how much vitamin D a calf needs. The calves used in this study were raised in the dark. Deprived of every source of vitamin D -- sunlight, codliver oil, everything,

DUMARS: I thought -- don't you have to have vitamin D, to make calcium form in your bones?

REED: You certainly do. And so does a calf. That's why these calves soon got to the place where they couldn't walk. Their hind legs were just too wobbly to hold them up.

MOORE: But ordinarily, there's no danger of cattle not getting enough vitamin D.

REED: Not if they get plenty of sunshine -- or if their ration includes hay that was cured in the sun.

MOORE: Mr. Reed, what's this I hear about something new they've discovered in milk?

REED: It's something that promotes growth. Something not yet identified.

DUMARS: Is it a vitamin?

REED: The scientists don't know yet. Ask me a few months from now, and maybe I'll have the answer.

DUMARS: Okay.

MOORE: And while you're talking about the scientists -- I wish you'd tell us, Mr. Reed, how your research helps with the wartime food program.

REED: Well, even before the United States got into the war, there was a great demand for cheese and powdered milk that would keep well when sent overseas. We'd been doing research on these products for a number of years, so one of the first things we did was to help the industry apply the results of our work.

I'll give you three examples. We developed a method of making high-quality Cheddar cheese from pasteurized milk. We found a way of dehydrating cheese so it wouldn't take up too much room in shipping. And we worked out a better method of making and packaging whole milk powder -- so it keeps for a longer time. And since "no other food excels milk"-- Duke, what was that high-powered quotation you mentioned a while ago?

DUMARS: Where'd I put my notes!

MOORE: Look in the waste basket.

DUMARS: I thought I --

MOORE: You thought you'd finished your dairy education.

DUMARS: Here it is. "No other food exceeds milk in the possibilities it holds for the improvement of human life through better nutritional well-being."\*

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\* Dr. Henry C. Sherman, in "Principles of Nutrition and Nutritive Value of Food," M.P. No. 546, U.S.D.A.

REED: That being the case, you can see why the Bureau of Dairy Industry is going full speed ahead, to help the dairy farmer meet his wartime food goals. Have you heard about the eight-point feeding and management program?

DUMARS: Sure.

MOORE: Certainly have. Didn't your Bureau help to work it out?

REED: We helped with the "what and why," and the State extension Services are following up with the "how to do it." In the past three years, the dairy farmers have come across with more milk than ever before -- fifteen billion pounds more than before the war. In spite of all their difficulties, the dairy farmers have really "done a job," and this year they're tackling a bigger job than ever. We need still more milk.

MOORE: Thank you very much, Mr. Reed.

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ANNOUNCER: (LIVE) Ernie Moore's guest today was O. E. Reed, Chief of the Bureau of Dairy Industry of the United States Department of Agriculture. This is number 6 in the series on "Farm Science Serves the Nation."

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